Project Status, Reporting, and Forecasting Procedure
OETI-PMP-04

Environmental Protection Agency
Office of Enterprise Technology and Innovation (OETI)

February 2, 2007 – Version 1.0

Document Change History

Version	Date	Author	Description of Changes

Contents

1. Introduction

This document defines the process by which staff within the Environmental Protection Agency (EPA)'s Office of Enterprise Technology and Innovation (OETI) performs project status, reporting, and forecasting activities.

1.1 Purpose

This document defines the approach, process flow, and relevant standards by which OETI project staff performs project status, reporting, and forecasting activities and identifies participants and their responsibilities. The purpose of this procedure is to define the steps that are part of the project status cycle.

1.2 Background

Maintaining a project schedule, tracking costs, and following standard and repeatable procedures allow a project team to analyze trends and forecast or predict remaining effort. This procedure explains steps to provide Project Team Members and senior management the information necessary to manage and control their project's costs and schedules through regular status, reporting, and forecasting activities. These activities, along with other project management disciplines, helps ensure that projects are completed as expected.

For a project schedule to be meaningful and useful, the activities and milestones must be logically tied providing a dynamic estimate that can be compared monthly with the original plan. When the project schedule is accurately updated, the Project Manager and other team members are able to see the true progress being made on the project, by comparing the original plan (baseline) to the current results. It also provides the ability to analyze the critical path and ensure the best resources are assigned to the efforts with the highest priorities. The project schedule thus becomes a primary management tool and the source for all information regarding status reporting. The project status process begins after the original plan is approved or baselined, as described in *PMP-03 Project Schedule and Cost Baseline Procedure*.

To reinforce these practices, the Clinger-Cohen Act of 1996 and the Office of Management and Budget (OMB) June 2006 Circular A-11 directs that investment projects have performance measures and management processes that monitor and compare actual performance to planned results. Additionally, OMB issued Memorandum 05-23 requiring the use of an Earned Value Management System (EVMS) for information technology (IT) investments to enforce the improvement of agencies' IT investment planning and execution (See Appendix F).

2. Approach

This section explains the approach used to develop the project status, reporting, and forecasting procedure. It details the assumptions, the degree of scalability of the procedures, and the industry standards, best practices, and EPA current practices consulted in creating this procedure.

2.1 Assumptions

The project status, reporting, and forecasting procedure assumes the following:

- OETI may manage several projects of varying size and complexity.
- Projects may be dependent on an overall project plan or may be independent projects managed under a portfolio of projects.
- This procedure defines the status reporting and forecasting steps for large projects. Smaller projects may implement a subset of these steps or scaled down versions of the processes and reports presented in this procedure.
- Performing this procedure requires that projects are authorized and funded in accordance with *PMP-02 Project Initiation and Planning Procedure*.
- The project schedule and cost baseline are developed and approved in accordance with *PMP-03 Project Schedule and Cost Baseline Procedure.*
- This procedure is dependent on the use of an automated scheduling tool. It assumes that at a minimum, the Scheduler/Earned Value (EV) Coordinator is trained in the effective use of the tool and has access to the automated tool for reviewing schedule changes and additions and for making updates.
- The project team members responsible for analyzing scheduling and earned value metrics are trained in effective project management and Earned Value Management (EVM).
- External requirements may dictate project direction and activities and may override the steps defined in this procedure.

2.2 Scalability

As part of the project initiation and planning activities, the Project Manager uses certain criteria to determine to what extent the status, reporting, and forecasting procedure is applied to his/her project. Systems and large projects are generally more complex and require more regular and disciplined processes to manage them effectively. The extent of the procedure applied is also affected by internal and external requirements. EPA's Office of Environmental Information (OEI) issues EVM Procedures to comply with the OMB directive to enforce the improvement of agencies' IT investment planning and execution. Where necessary to enhance project management and success of OETI system projects, OETI project management procedures add to the agency's minimum requirements articulated in OEI's EVM policy and procedures.

The applicable external and internal requirements must be met for each project. However, the extent of the status, reporting, and forecasting procedure as well as the number of resources involved in the process can be adjusted. Scaling the procedure should be based on the unique project requirements, especially for small projects with few or no dependencies, a low level of risk, and a relatively short duration, as well as non-system projects. The project team should evaluate the unique characteristics of the project during the planning process and determine how best to adjust the procedure to address specific project requirements. Table 2-1 below provides guidelines for applying this procedure.

Table 2-1. Status, Reporting, and Forecasting Scalability Guidelines

Procedure	Does the Procedure Apply?	Determining Procedure Scalability
OETI-PMP-04 Project Status, Forecasting and Reporting Procedure	▪ Applies for all projects	▪ Procedure is scaled based on project size, cost, duration, number and type of stakeholders, participation of contractors, degree of project risk, and any internal and external reporting requirements ▪ Higher Project Complexity Model rating requires more rigor in status and reporting activities

Most projects require basic status activities such as analysis of planned vs. actual dates and milestones and reporting of progress-to-date. Often, small projects have links to larger projects or there are dependencies across projects and the information is needed in order for other projects to plan accurately and assess new issues or risks. However, the level of detail required on status reports and forecasts may vary based on the size and complexity of each project. Decisions regarding the detail and extent of statusing activities are made during the project planning process. This process is defined in *PMP-02 Project Initiation and Planning*.

2.3 Best Practices

The OETI vision includes the employment of best practices from both industry and the EPA. This procedure incorporates the following best practices and existing regulations and policies:

- **EPA regulations and standards**
  - EPA Directive 2100.5, System Life Cycle Management Policy. Available at http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/2100.5.pdf
  - The EPA Interim Agency System Life Cycle Management Procedures. Available at: http://intranet.epa.gov/otop/policies/Extended_InterimProcedures.pdf
  - OCFO Policy Announcement 05-01, December 15, 2004, "Accounting for Information Technology" http://intranet.epa.gov/ocfo/policies/policy/pa05.htm
  - EPAAR 1552.211-79 b (5) Compliance with EPA Policies for Information Resources Management.
- **Federal regulations, industry standards, and best practices**
  - OMB Circular A-11 (Part 7, Planning, Budgeting, Acquisition & Management of Capital Asset). Available at: http://www.whitehouse.gov/OMB/circulars/a11/03toc.html
  - OMB Memorandum M-05-23, "Improving Information Technology Planning and Execution," dated August 4, 2005. Available at: http://www.whitehouse.gov/omb/memoranda/fy2005/m05-23.pdf
  - American National Standards Institute/Electronic Industries Association Standard 748-A (ANSI/EIA-748A) A Standard for EVMS Intent Guide. Available at: http://www.ndia.org/Content/ContentGroups/Divisions1/Procurement/PDFs10/NDIA_PMSC_EVMS_IntentGuide_Jan2005.pdf
  - Project Management Institute (PMI) Project Management Body of Knowledge (PMBOK®) Guide, Third Edition, 2004 (Chapter 4: Project Integration Management).

3. Roles and Responsibilities

Table 3-1 presents the roles and responsibilities for OETI project staff involved in status, reporting, and forecasting activities. This table lists functions or tasks that each project role performs. While each role will be assigned to an individual staff member, an individual may perform multiple roles for a project.

Table 3-1. Project Status Roles and Responsibilities

Role Definition	Responsibilities
Project Manager	▪ Assigns Schedule/EV Coordinator ▪ Manages cost, schedule, and performance for the project ▪ Reviews status reports, variance analysis, and corrective action plans for the project ▪ Approves project status information for inclusion in Office of the Chief Financial Officer (OCFO) dashboard report ▪ Works with Control Account Manager (CAM) and Project Team Lead to identify unrecoverable variances ▪ Approves informal re-plan actions ▪ Reviews and approves change requests (CR) to initiate formal re-plan actions prior to submission
Planning and Evaluation Team Lead	▪ Compiles updated status report information for dashboard reporting to the system or project sponsor ▪ Compiles OCFO project earned value data for submission to OMB, as required
Project Team Lead	▪ Manages cost, schedule, and performance of a specified portion of the scope of work ▪ Reviews status reports, variance analysis, and corrective action plans for a specified portion of the scope of work ▪ Works with Control Account Manager (CAM) and Project Manager to identify unrecoverable variances ▪ Works with CAM to recommend requests for formal re-plans ▪ Submits CRs to initiate formal re-plan actions Note: If this person is not the Contracting Officer's Representative (COR), he or she should consult with the COR to ensure understanding of any contractor's responsibilities and reporting requirements per the contract, if applicable.
Control Account Manager (CAM)	▪ Provides updated schedule and actual cost information to the Schedule/EV Coordinator ▪ Provides status information for a specified portion of the scope of work; explains cost and schedule variances from the baseline ▪ Works with Project Team Lead to recommend requests for formal re-plans ▪ Prepares CRs to initiate formal re-plan actions
Schedule/EV Coordinator	▪ Maintains the scheduling and earned value tools, if applicable ▪ Works with CAM to update project schedules and to capture actual costs ▪ Ensures integrity of the integration between the project schedule and earned value data ▪ Compiles and analyzes EVM data ▪ Produces detailed cost and schedule data and populates preliminary status reports for use by CAM

4. Procedure

This section presents the process flow for project status, reporting, and forecasting, and describes each step of the process in detail.

4.1 Process Flow Diagram

Figure 4-1 depicts the process for project status, reporting, and forecasting and the activities to be performed.

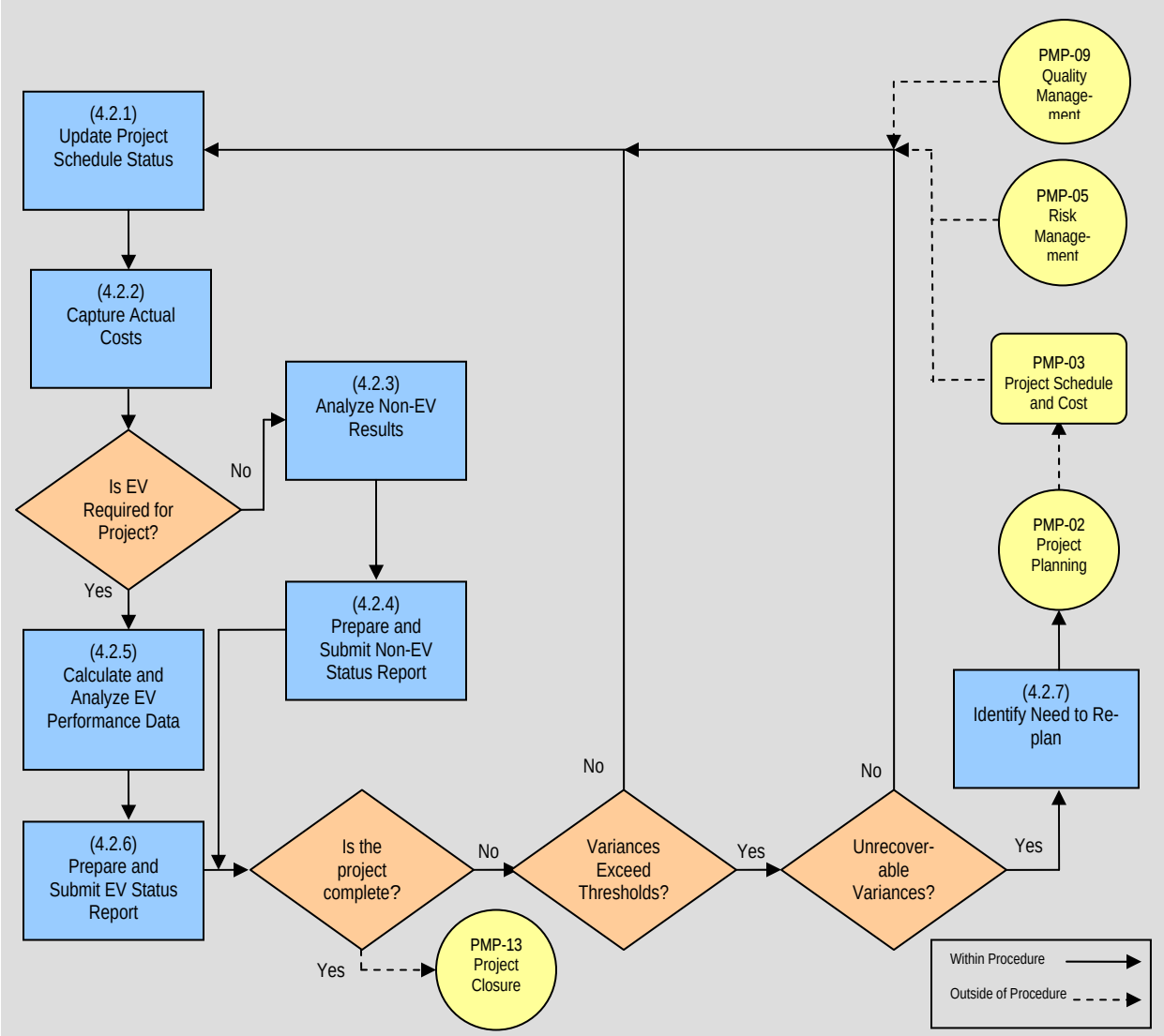

Figure 4-1. Project Status, Reporting, and Forecasting Process

4.2 Steps

The following sections describe the steps of the project status process shown in Figure 4-1.

4.2.1 Update Project Schedule Status

During the project planning phase as described in *PMP-02 Project Initiation and Planning Procedure*, key roles for the project are defined, including the Scheduler/EV Coordinator, who may also take part

in planning activities. In addition, the remaining project team members are identified and a corresponding team organizational structure is documented in the Project Management Plan (PMP). The PMP should include a high-level description of reporting responsibilities.

For purposes of this procedure, the description of activities in the various steps refers to a single Control Account Manager although for large projects, there may be multiple CAMs. Likewise, for smaller projects, the Project Team Lead role and CAM role may be performed jointly. For larger projects, a Project Team Lead may have several CAMs managing aspects of the scope of work within their responsibility.

There are two mechanisms for initiating the monthly status cycle: the establishment of the cost and schedule baselines (from *PMP-03 Project Schedule and Cost Baseline Procedure*) and the completion of the previous month's status cycle. To assist with the update of schedule activities, a "Needs Status" Report is provided to the CAM by the Schedule/EV Coordinator. This report lists the items in the project schedule requiring a status update for the current reporting period. It is the CAM's responsibility to work with the Schedule/EV Coordinator to ensure all activities in the schedule show properly updated actual and forecasted start and finish dates.

Specifically, the CAM meets with the Schedule/EV Coordinator to update activities that were planned to start or finish in the reporting period (the previous calendar month). If an activity was supposed to start or finish in the reporting period but did not, the schedule must be adjusted to:

- Add or modify a dependency (for activities that were not started as planned)
- Change a duration (for activities that did not finish as planned)
- Add a new task (to demonstrate why the activity is late and to determine a reasonable date).

When a critical milestone is more than five business days late, the CAM explains the cause and impact of the variance in the status report as described in Sections 4.2.4 and 4.2.6.

For EPA-managed projects with contractor support: The contractor is responsible for providing an updated schedule of their activities to the CAM (or accessing the schedule maintained at EPA) and updating all activities that were supposed to start or finish in the status period. If an activity was supposed to start or finish in the reporting period but did not, the schedule must be adjusted to add or modify a dependency, change a duration, or add a new task to demonstrate why the activity is late (as described above). It is the responsibility of the CAM, through collaboration with the COR, to ensure the contractor provides updated project information in a timely manner. Additional considerations when contract support is used are provided in Appendix D.

4.2.2 Capture Actual Costs

The CAM provides timesheets with hours[1] for all EPA staff performing on a scheduled project to the Schedule/EV Coordinator. The CAM also provides the current month's estimated and prior month's reported actual costs for any contractor support. The actual costs are appropriately consolidated by the Schedule/EV Coordinator and prepared for analysis and integration into the EV tool, if required.

[1] For IT projects, Project Manager's should consult OCFO's Policy Announcement 05-01, December 15, 2004, "Accounting for Information Technology," available: http://intranet.epa.gov/ocfo/policies/policy/pa05.htm

If the project has an earned value requirement, the procedure continues with step 4.2.5 (see Section 4.2.5).

4.2.3 Analyze Non-EV Results

After the Schedule/EV Coordinator updates the project schedule and collects actual costs, project information is provided to the CAM for review and analysis. This review includes a check for accuracy of the results as well as interpretation of the data for status reporting purposes.

Information provided by the Schedule/EV Coordinator for use by the CAM to aid in their analysis includes:

- Updated Project Schedule[2] – Schedule with the status updates and adjusted activities and relationships
- Total project budget – The total budget for the project based on the total budget from the previous month and any new or removed budget
- Actual costs (monthly and cumulative) – The actual costs expended to complete the work for the project
- Preliminary status report – The preliminary status report updated with budget and actual cost information.

Any errors found in the reports should be communicated to the Schedule/EV Coordinator for correction as soon as possible. It is the responsibility of the CAM to perform an analysis of the project schedule, budget, and the actual cost to date, to determine schedule and cost variances. The variances and thus project status (on, behind, or ahead of schedule and budget) are explained in the status report as described in step 4.2.4.

4.2.4 Prepare and Submit Non-EV Status Report

The analysis performed in step 4.2.3 provides the basis for the preparation of two status reports: a project status report submitted to the Project Manager and a dashboard report that summarizes various projects' status data and is submitted to the system or project sponsor, as required. This section addresses preparation of status information not related to earned value analysis. Status reports are typically prepared by the third week of the month for the preceding month's activity although risk and issue identification and management occur continuously. The dashboard report is prepared a week later for the same reporting period.

The Schedule/EV Coordinator inputs project schedule-specific information and related budget and actual cost data into the status report. Once the status report is updated with this information, the Schedule/EV Coordinator distributes it to the CAM.

It is the CAM's responsibility to update key fields in the status report, concentrating on the risks and issues that have arisen as a result of their schedule, budget, and actual cost analysis. As part of the status process, newly identified risks and issues are also communicated to the respective risk and

[2] The term 'schedule' is used to refer to a stand-alone schedule, or to a part of an Integrated Master Schedule (IMS), whichever is appropriate for the size and complexity of the project being monitored, and as determined by the Project Manager.

issues managers in accordance with *PMP-05 Risk Management Procedure* and *PMP-06 Issue Management Procedure*. Risk and issue management are continual processes and not just performed as part of status reporting activities. If a significant issue or risk is raised in the middle of the reporting period, it is addressed immediately per the processes defined in *PMP-05 Risk Management Procedure* and *PMP-06 Issue Management Procedure*. All new risks and issues identified during daily activities since the last reporting period as well as issues and risks identified as a result of status preparation and reporting should be included as part of the status report. If quality assurance activities are implemented for the project per *PMP-09 Quality Management Procedure*, quality assurance findings may also result in new risks and issues. New items for the month should be evaluated for the impact on cost, schedule and resources and included in the status report. The CAM provides an analysis of any critical milestones that are more than five business days late or actual costs of 5% or more over budget. The CAM should also consider any developing issues or risks that may result in either of these. Mitigation or contingency planning should be initiated (with appropriate approval) and reported in the status report and to the Project Manager in accordance with the risk and issue management procedures.

Once the status report is complete, the CAM submits it to the Project Team Lead (if applicable) or the Project Manager for review and approval, and then to the Planning and Evaluation Team Lead for compilation into the dashboard report, if required. The dashboard report is a graphical representation of the project metrics that the status cycle produces. Once approved by the Project Manager, the dashboard report is provided to the system or project sponsor.

If the project is complete at this point, project closure procedures are initiated using the *PMP-13 Project Closure Procedure*. However, if the project is not complete and cost variance is above threshold, the CAM works with the Project Team Lead (if applicable) and Project Manager to determine if the variance is recoverable or unrecoverable. An unrecoverable variance is a variance that exceeds established thresholds and whose variance cannot be eliminated through corrective action. This situation occurs when actual costs already exceed the budget for either a control account or the project or, when the work remaining to complete the effort cannot be accomplished within the planned timeframe or budget. If the variances are recoverable, the variance analysis performed in the status report should describe the corrective action plan. If the variances are not recoverable, step 4.2.7 is performed to determine what re-planning actions are necessary.

4.2.5 Calculate and Analyze EV Performance Data

If the project requires EVM, which is determined during the project planning process described in *PMP-02 Project Initiation and Planning*, the activities described in step 4.2.2 are the predecessor activities for step 4.2.5. Step 4.2.2 allows the Schedule/EV Coordinator to ensure that all information necessary to produce EV metrics is available for input to the EV tool.

The Schedule/EV Coordinator distributes the updated schedule[3] to the CAM for analysis. This step is critical because of the potential impact an update to a predecessor activity may have on a dependent activity. The CAM needs to understand all linked activities in the schedule, and analyze the impact of early, on-time, or late performance of the activities for reporting risks and variances in the status report. In addition, compiled cost data is provided to the CAM for review. Any errors found in the

[3] The term 'schedule' is used to refer to a stand-alone schedule, or an IMS, whichever is appropriate for the size and complexity of the project being monitored.

schedule or cost data should be communicated to the Schedule/EV Coordinator for correction as soon as possible.

The Schedule/EV Coordinator then integrates the updated schedule information (from step 4.2.1) and actual hours (from step 4.2.2), including any corrections, into the EV tool so that updated dates are loaded and work performance is calculated. Once the information is successfully loaded, the EV metrics are calculated based on the dates and percentage of completion for activities in the project schedule and the EV technique assigned to each work package in the EV tool.

The EV tool is used to report the metrics for the current period: the planned work scheduled (Planned Value or PV), the value of the work performed (Earned Value or EV), the actual cost of the work performed (Actual Cost or AC), the cost variance (CV) and schedule variance (SV), and the cost performance index (CPI) and schedule performance index (SPI) for each component of work in the project schedule. This information is provided in a series of reports and distributed to the CAM to help him/her analyze the performance of their project. Refer to the PMBOK® Glossary, Section 3. Definitions, to obtain a comprehensive list of earned value and related project management terms. Refer to ANSI/EIA 748A, Section 2.4 Analysis and Management Reports for a more detailed description of earned value reporting.

The Schedule/EV Coordinator distributes the following items to the CAM to aid in their analysis of project performance:

- Updated Project Schedule – Schedule with the status updates and adjusted activities and relationships
- EV Report – A report showing the current period and cumulative earned value metrics for each control account and work package, including milestones associated to each work package
- Control Account Plan (CAP) Report – A report showing the time-phased budget, performance, and actual costs for the project period of performance for each control account
- Additional Cost and Performance Reports (CPRs) – Various reports, as appropriate, displaying the cost and schedule performance for the current reporting period, cumulative-to-date, and at project completion (forecast) for each control account, as well as any variance indicators. The Schedule/EV Coordinator produces reports in varying levels of detail to assist the CAM in analyzing project status and EV metrics.

With support from the Schedule/EV Coordinator, it is the responsibility of the CAM to perform an analysis of the project schedule, budget, and the actual cost to date to determine schedule and cost variances. The variances and thus project status (on, behind, or ahead of schedule and budget) are explained and reported in the status report as described in step 4.2.6.

4.2.6 Prepare and Submit EV Status Report

Preparation of the EV Status Report is dependent upon the analysis performed in step 4.2.5 and involves preparation of two status reports: a project status report submitted to the Project Manager and a dashboard report that summarizes various projects' status data and is submitted to the system or project sponsor, if required. Status reports are typically prepared by the end of the third week of the month for the preceding month's activity. The dashboard report is prepared a week later for the same reporting period.

The Schedule/EV Coordinator inputs project schedule-specific information and EV metrics into the status report. Once the status report is populated with this information, the Schedule/EV Coordinator distributes it to the CAM.

It is the CAM's responsibility to provide information for each of the key areas in the status report (see Appendix E for an EV Status Report template), concentrating on any additional risks and issues that have arisen as a result of their schedule, EV metrics, and variances. As part of the status process, newly identified risks and issues are also communicated to the respective risk and issues managers in accordance with *PMP-05 Risk Management Procedure* and *PMP-06 Issue Management Procedure*. As noted in Section 4.2.4, risk and issue management is a continual process. As risks and issues are identified, they are addressed per the processes defined in *PMP-05 Risk Management Procedure* and *PMP-06 Issue Management Procedure*. The significant risks and issues identified as part of day-to-day project activities should also be reflected in the report. Items identified during quality assurance activities, defined in *PMP-09 Quality Management Procedure,* are likely to have an impact on project status and may result in new issues and risks. These should also be included in project status reporting. The CAM provides an analysis of any critical milestones that are more than five business days late or actual costs of 5% or more over budget. The CAM should also consider any developing issues or risks that may result in either of these. Mitigation or contingency planning should be initiated (with appropriate approval) and reported in the status report and to the Project Manager in accordance with the risk and issue management procedures.

Once the status report is complete, the CAM submits it to the Project Team Lead (if applicable) or the Project Manager for review and approval, and then to the Planning and Evaluation Team Lead for compilation into the dashboard report, if required. The dashboard report is then submitted to the Project Manager for review and approval. As mentioned previously, the dashboard report is a graphical representation of the metrics that the status cycle produced. Once approved by the Project Manager, the dashboard report is provided to the system or project sponsor. The Planning and Evaluation Team Lead also prepares related reports for OMB on OCFO program status, as required.

If the project is complete at this point, close out procedures are initiated using the *PMP-13 Project Closure Procedure*. However, if the project is not complete and cost and schedule variances are above threshold, the CAM works the Project Team Lead (if applicable) and the Project Manager to determine if the variances are recoverable or unrecoverable. An unrecoverable variance is a variance that exceeds established thresholds and whose variance cannot be eliminated through corrective action. This situation occurs when actual costs already exceed the budget for either a control account or the project or, when the work remaining to complete the effort cannot be accomplished within the planned timeframe or budget. If the variances are recoverable, the variance analysis performed in the status report should describe the corrective action plan. If the variances are not recoverable, step 4.2.7 is performed to determine what re-planning actions are necessary.

4.2.7 Identify Need to Re-plan

Re-planning is the process of modifying a project's scope, schedule, and/or budget. Re-planning can involve changes that do not expand the scope of work, are limited to a single control account, result in a zero net effect to hours and dollars and occur within the same status period (typically one month). A re-plan does not necessarily result in a new baseline and is approved by the Project Manager. Some re-plans may not be required to follow a change control process (actual practice varies from project to project and across organizations) but it is a best practice to use a change control process to, at a minimum, trace the source and justification for the change. During project planning activities, the Project Manager determines whether or to what extent informal re-plans are required to follow a change control process.

The need for a re-plan is triggered in two ways: modified scope of work or unrecoverable cost or schedule variances for a single control account or the entire project. Irrespective of the trigger, the request to implement a re-plan should be prepared by the CAM according to the change control process (*see PMP-08 Change Control Procedure)* and approved by the Project Team Lead (if applicable) and the Project Manager, either of whom may submit the CR. It is the Change Control Board (CCB) who ultimately determines whether or not a re-plan is performed. If the request for a re-plan is approved, the change request proceeds according to *PMP-02 Project Initiation and Planning Procedure* and *PMP-03 Project Schedule and Cost Baseline Procedure*. Ultimately, the result of these processes is a new project baseline. In addition, when the re-plan is triggered by an unrecoverable variance, the time-phased budget and performance to date values are set equal to actual costs to date. This means that the unrecoverable variances are eliminated and the baseline is a more realistic reflection of remaining effort going forward. However, not all unrecoverable variances result in a re-plan.

Both internal and external versions of the cost and schedule baselines may be necessary. This is due to frequency and level of detail needed to meet external reporting requirements. However, in addition to managing control accounts within its purview, OETI uses schedule and Earned Value metrics to perform external reporting to OMB. The baseline for OMB reporting is established at the beginning of a program and reviewed periodically (for example when a program moves to the next life cycle phase). OMB reporting is generally at a higher (less detailed) level than the monthly status reporting at the control account level. Changes to the OMB baseline are generally less frequent than changes Control Account baselines, and follow an EPA review cycle. Project staff must track the OMB baseline in addition to control account baselines, and report against it as required.

At this point, the status cycle is complete and is repeated in the next month.

5. Considerations

The following provides a list of general best practices that should be considered when performing project status, forecasting and reporting activities:

- Status meetings should be conducted on a regular basis and meeting notes documented and distributed to project staff. Monthly is the standard for frequency but larger and more complex projects should meet more often if circumstances require it. For example, a particularly critical milestone is approaching that has a significant number of dependencies associated with it may require communication more frequently during the critical period.
- Quality Management activities and findings are good indicators of potential longer term issues. The results of quality assurance activities should be reflected on the status reports and evaluated for new issues and risks or early indications ("trend analysis") of developing problems.
- Project status reports, forecasts and other documentation should be electronically maintained for referential purposes consistent with the processes defined in *PMP-12 Document Management Procedure.*

Appendix A Acronyms

The following acronyms shown below are referenced in this document.

Abbreviation	Description
AC	Actual Costs
ACWP	Actual Cost of Work Performed
ANSI	American National Standards Institute
BAC	Budget at Completion
BCWP	Baseline Cost of Work Performed
BCWS	Baseline Cost of Work Scheduled
CAM	Control Account Manager
CAP	Control Account Plan
CCB	Change Control Board
COR	Contracting Officer's Representative
CPI	Cost Performance Index
CPR	Cost and Performance Report
CR	Change Request
CV	Cost Variance
DO	Delivery Order
DoD	Department of Defense
EAC	Estimate at Completion
EIA	Electronic Industries Association
EPA	Environmental Protection Agency
EPAAR	EPA Acquisition Regulation
EV	Earned Value
EVM	Earned Value Management
EVMS	Earned Value Management System
IMS	Integrated Master Schedule
IPR	In-Progress Review
IT	Information Technology
NDIA	National Defense Industrial Association
OCFO	Office of the Chief Financial Officer
OEI	Office of Environmental Information
OETI	Office of Enterprise Technology and Innovation
OMB	Office of Management and Business
PMBOK®	Project Management Book of Knowledge
PMI	Project Management Institute
PMP	Project Management Plan
PV	Planned Value
SPI	Schedule Performance Index
SV	Schedule Variance
TO	Task Order
WA	Work Authorization

Appendix B Checklist for Project Status, Reporting, and Forecasting

The following provides a checklist for the key activities associated with each step of this status, reporting, and forecasting procedure.

Activities	Responsible Parties
4.2.1 Update Project Schedule Status	
❑ Activities planned to start or finish in the reporting period (the previous calendar month) are updated ❑ Adjustments to the schedule are made (e.g., add dependencies, change duration, add a new task, etc.) ❑ Contractor schedule submitted is checked to ensure that all activities planned for the period are updated	CAM Schedule/EV Coordinator
❑ Need Status Report is issued	Schedule/EV Coordinator
4.2.2 Capture Actual Costs	
❑ Timesheets are provided to Schedule/EV Coordinator ❑ Current month estimate and prior month reported actual contractor costs are provided to Schedule/EV Coordinator, if applicable	CAM COR (if applicable)
❑ Actual cost data is consolidated and prepared for analysis (EPA and contractor cost data as applicable)	Schedule/EV Coordinator
4.2.3 Analyze Non-EV Results	
❑ Updated schedule is distributed to CAM ❑ Project budget and actual costs are distributed to CAM	Schedule/EV Coordinator
❑ Schedule information is reviewed and understood ❑ Analysis is performed on project budget and actual costs ❑ Corrections are provided to Schedule/EV Coordinator	CAM
4.2.4 Prepare and Submit Non-EV Status Report	
❑ Status report template is populated with status information ❑ Source data (e.g., project schedules, project budget, actual costs, preliminary status report) is provided to the CAM	Schedule/EV Coordinator
❑ Issues, risks and quality assurance results are managed and reported throughout the reporting period as well as on the status report ❑ Status report is populated with risks and issues analysis and budget vs. actual costs variance explanations ❑ Status report is distributed to Project Team Lead (if applicable), Project Manager and Project Evaluation Team Lead	CAM
❑ Status report updates are summarized in the dashboard report and submitted to system or project sponsor after Project Manager approves the report	Planning and Evaluation Team Lead
❑ Project status report is reviewed and accepted	Project Team Lead (if applicable) Project Manager
❑ Dashboard report is reviewed and approved	Project Manager

Activities	Responsible Parties
4.2.5 Calculate and Analyze EV Performance Data	
❑ Updated schedule is distributed to CAM ❑ Monthly EV metrics are produced ❑ Reports and other information (e.g., updated schedule, EV reports) are compiled and distributed to CAMs	Schedule/EV Coordinator
❑ Analysis is performed on EV metrics ❑ Corrections are provided to Schedule/EV Coordinator	CAM
4.2.6 Prepare and Submit EV Status Report	
❑ Status template is populated with status information, including corrections ❑ Source data (e.g., project schedule, EV metrics, relevant EV reports, preliminary status report) is sent to CAM	Schedule/EV Coordinator
❑ Issues, risks and quality assurance results are managed according their respective procedures throughout the reporting period as well as on the status report ❑ Status report is populated with risks and issues analysis, basic EV analysis, and variance analysis ❑ Status report is distributed to Project Team Lead (if applicable), Project Manager and Project Evaluation Team Lead	CAM
❑ Status report updates are summarized in the dashboard report and submitted to OCFO after Project Manager approves the report ❑ Related OCFO program status reports for OMB compiled and submitted, as required	Planning and Evaluation Team Lead
❑ Project status report is reviewed and approved	Project Team Lead (if applicable) Project Manager
❑ Dashboard report is reviewed, approved, and sent to system or project sponsor	Project Manager
4.2.7 Identify Need to Re-plan	
❑ Variances are examined to determine if they exceed the reporting threshold	CAM Project Team Lead (if applicable) Schedule/EV Coordinator
❑ Variances are examined to determine if they are unrecoverable	Project Manager Project Team Lead (if applicable) CAM
❑ Prepares a CR requesting a formal re-plan, if necessary	Project Team Lead (if applicable) CAM
❑ Approves submission of CR requesting a formal re-plan, if necessary	Project Manager
❑ Submits CR requesting a formal re-plan, if necessary	Project Team Lead

Appendix C Additional Resources

The following provides a list of key resources and references associated with the status, reporting, and forecasting procedure that can be used to obtain additional background information, describe concepts and methodologies and assist in completion of the activities. Sample templates and plans may not be directly applicable but can provide additional information on scaling project status reporting for smaller projects.

	Form/Guidance	Source	Web site
1	Basic Project Scheduling and project management background	Principal based Project Management website	http://www.hyperthot.com/pm_sked.htm
2	Project Scheduling definitions and related concepts	University of Washington website	http://www.washington.edu/computing/pm/plan/schedule.html
3	Project Management Framework	State of Washington website	http://isb.wa.gov/tools/pmframework/
4	Project Management Templates and information	State of Virginia website	http://www.vita.virginia.gov/projects/cpm/templates.cfm
5	Project Management Sample Plans	U.S. Department of Energy website	http://cio.doe.gov/ITReform/sqse/publications.htm
6	Project Planning Guidebook	State of New York website	http://www.oft.state.ny.us/pmmp/guidebook2/Planning.pdf
7	CMMI Guidelines	Carnegie Mellon Software Engineering Institute website	http://www.sei.cmu.edu/cmmi/adoption/pdf/byrnes.pdf
8	DoD EVM Policy and Guidance	DoD website	http://www.acq.osd.mil/pm/currentpolicy/currentpolicy.html
9	EPA EVM Lessons Learned	EPA website	http://www.cio.gov/documents/EPA_EVM_Lessons_Learned.pdf
10	EPA IT System Life Cycle	EPA website	http://www.epa.gov/irmpoli8/ciopolicy/2100.5.pdf

Appendix D Interface Requirements

The purpose of this appendix is to provide general guidelines for collecting the appropriate information from contractors to ensure seamless integration of project data and promote efficient monitoring of the overall project. Frequently, data is needed by support contractors to enable the Project Manager to assess real-time status accurately against overall performance, schedule, and cost objectives. In addition, the interface points between the government and contractor need to be fully delineated to ensure that each party understands its specific role and responsibilities in data management and reporting and that the information can be efficiently captured utilizing the project's established management processes and tools. As a result, these data, reporting, and interface requirements need to be well defined early in the process to ensure that they are fully described in the awarded contract, Work Authorization (WA), Delivery Order (DO), and/or Task Order (TO). In addition, the frequency, format and mode of submission for the different reporting requirements also need to be defined within the contract or WA, DO, or TO.

The following series of questions help determine the data, reporting, and interface requirements that may be required for a specific project. Requirements may vary significantly depending on the scope, complexity, size, and duration of the project as well as type of contract awarded. Overall the questions are designed to help refine what kind of information will be needed to ensure effective management of the project and the correlating responsibilities of the contractor.

- Will the contractor be required to provide regular status reports?
  - What level of detail is needed regarding schedule, cost, and performance data on the status reports?
  - How frequent should the reports and/or data be submitted?
  - Will the contractor be required to provide EVM data?
  - What kind of format will the contractor need to provide status reports and/or data?
  - Will the contractor be required to feed reporting data into an automated process or tool?
  - If so, what tools (if any) will the contractor be required to interface with or provide data to support?
  - What are the acceptable data submission formats?
  - What data elements must be provided?
  - What is the frequency for submission?
  - Are real-time data required?
- Will the contractor be required to identify and track risks and issues and provide updates to EPA? If so, in what format and at what frequency?
- What are the contractor's responsibilities related to development and updating of the IMS?
- Will the contractor be required to provide schedule information in a specific format or with\ certain software?

Appendix E EV Status Report Templates

This appendix provides the templates to use when reporting project status and earned value. Following is the template for project status data. This information is captured on a continual basis during the reporting month as it is identified by the CAM.

Variance Report Comments
[Explain any variance of 10% or greater from plan for the current period and/or cumulative to date]

Performance and Accomplishments
[List accomplishments and other descriptions of performance for the reporting period]

Risks/Issues/Outstanding Items
[List any risks, issues or outstanding action items]

Corrective Actions
[Describe the corrective actions planned and/or implemented to address variance]

Completed Corrective Actions
[List completed corrective actions and describe impact to project, if any]

Following is the template used to report out project status and earned value.

Control Accounts managed by <name> as of <date>					
Project Summary					
[List the control accounts from the IMS that are managed and reported on this form]					
Team Lead/Control Account Manager			**Performers**		
[Insert Name of Team Lead or Control Account Manager]			*[Describe the staff who are responsible for performing the work in the control account(s), including contractors]*		
Milestones					
Calendar Year 2006 – 2007					
July, Aug, Sept 2006	**Oct, Nov, Dec 2006**	**Jan, Feb, Mar 2007**		**April, May, June 2007**	
[For each quarter, list the major milestones to be accomplished. Update to include actual information once completed]					
Cost & Schedule Performance	**Index**	**Score**	**Summary Earned Value Data**	**Metric**	**Value**
	Current CPI:	🔴		Current Planned Value (PV)	*[Insert the summary figures from the detailed earned value chart]*
				Current Earned Value (EV)	
	Current SPI:	🟢		Current Actual Costs (AC)	
				Cumulative Planned Value (PV)	
	Cumulative CPI:	🟡		Cumulative Earned Value (EV)	
	Cumulative SPI:	🟢		Cumulative Actual Costs (AC)	
Notes				Budget at Completion (BAC)	
				Estimate at Completion (EAC)	
				Latest Revised Estimate	

Detailed Earned Value Data

	Current Period					Cumulative To Date					BAC
Control Account	BCWS (PV)	BCWP (EV)	ACWP (AC)	SPI	CPI	BCWS (PV)	BCWP (EV)	ACWP (AC)	SPI	CPI	Budget at Completion
[List each control account and populate current period and cumulative to date EV data fields to the right]											

Variance Report Comments

[Explain any variance of 10% or greater from plan for the current period and/or cumulative to date]

Performance and Accomplishments

[List accomplishments and other descriptions of performance for the reporting period]

Risks/Issues/Outstanding Items

[List any risks, issues or outstanding action items]

Corrective Actions

[Describe the corrective actions planned and/or implemented to address variance]

Completed Corrective Actions

[List completed corrective actions and describe impact to project, if any]

Appendix F OMB Policy Letter

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503
M-05-23
August 4, 2005

MEMORANDUM FOR CHIEF INFORMATION OFFICERS

FROM: Karen S. Evans, Administrator
Office of E-Government and Information Technology

SUBJECT: Improving Information Technology (IT) Project Planning and Execution

As we continue to realize the value of good project management, room for improvement remains in the execution of our IT projects. With the right tools and qualifications, managers will be better equipped to make decisions and carry out their missions. Over the past several years, agencies have improved the quality of their IT project planning and justification. We would now like to continue this improvement during the execution phase of the IT project. Therefore, the following guidance is provided to assist you in monitoring and improving project planning and execution and fully implementing Earned Value Management Systems (EVMS) for IT projects.

You are already required in your annual budget justifications to plan, invest, and document only those projects effectively linked to agency strategic and annual performance plans and which demonstrate improvement in program performance. We now want you to take the actions detailed in attachments A and B to this memorandum.

Attachment A outlines steps agencies must take for all new major IT projects, ongoing major IT developmental projects, and high risk projects to better ensure improved execution and performance as well as promote more effective oversight. Specifically, the attachment describes procedures regarding the following principles:

- Establishing and validating performance measurement baselines with clear cost, schedule and performance goals;
- Managing and measuring projects to within ten percent of baseline goals through use of an EVMS compliant with the guidelines in American National Standards Institute (ANSI)/ Electronic Industries Association (EIA) STD -748 or, for steady-state projects, perform operational analyses;
- Assigning to each project a qualified project manager; and
- Avoiding duplication by leveraging inter-agency and government-wide investments to support common missions or other common requirements.

Attachment B describes how agencies move to full implementation of EVMS for IT projects through:

- Developing agency policies no later than December 31, 2005;
- Including EVMS in contracts;
- Performing reviews to ensure the EVMS meets established requirements; and
- Ensuring performance goals are appropriate.

Attachment C offers additional information on resources and training to assist in developing and implementing policies for an EVMS.

The Chief Information Officers Council will begin necessary actions to assist all agencies in consistently meeting these requirements including developing by October 2005 a model agency EVMS policy for IT projects. If you have any questions regarding this memorandum, please contact Stacie Higgins, at 202-395-0346 or stacie_higgins@omb.eop.gov.

Attachments

A copy of this memorandum and its attachments are available at: http://www.whitehouse.gov/omb/memoranda/fy2005/m05-23.pdf].